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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,438	06/12/2001	Michael Miettinen	442-010339-US(PAR)	3541
75	7590 01/02/2004		EXAMINER	
Perman & Green			THAI, CUONG T	
425 Post Road				
Fairfield, CT 06430-6232			ART UNIT	PAPER NUMBER
,			2173	L

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)	79
•	09/879,438	MIETTINEN ET AL.	
Office Action Summary	Examiner	Art Unit	
	CUONG T THAI	2173	
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet w	rith the correspondence address -	
A SHORTENED STATUTORY PERIOD FOR REP THE MAILING DATE OF THIS COMMUNICATION  - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a re  - If NO period for reply is specified above, the maximum statutory perio  - Failure to reply within the set or extended period for reply will, by state  - Any reply received by the Office later than three months after the mail  - earned patent term adjustment. See 37 CFR 1.704(b).  Status	I. 1.136(a). In no event, however, may a eply within the statutory minimum of thi d will apply and will expire SIX (6) MO ute, cause the application to become A	reply be timely filed  rty (30) days will be considered timely.  NTHS from the mailing date of this communication  BANDONED (35 U.S.C. § 133).	ation.
1) Responsive to communication(s) filed on			
2a) ☐ This action is <b>FINAL</b> . 2b) ☑ Th	is action is non-final.		
Since this application is in condition for allow closed in accordance with the practice under			s is
Disposition of Claims			
4) ☐ Claim(s) 1-16 is/are pending in the application 4a) Of the above claim(s) is/are withdress 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-16 is/are rejected. 7) ☐ Claim(s) 1.4,8,9,11 and 15 is/are objected to 8) ☐ Claim(s) are subject to restriction and	rawn from consideration.		
Application Papers	ror election requirement.		
9)⊠ The specification is objected to by the Exami	nor		
10) The drawing(s) filed on is/are: a) a		by the Examiner.	
Applicant may not request that any objection to the		•	
Replacement drawing sheet(s) including the corre	ection is required if the drawing	g(s) is objected to. See 37 CFR 1.12	?1(d).
11)☐ The oath or declaration is objected to by the	Examiner. Note the attache	ed Office Action or form PTO-152	<u>?</u> .
Priority under 35 U.S.C. §§ 119 and 120			
12) △ Acknowledgment is made of a claim for foreign a) △ All b) ☐ Some * c) ☐ None of:  1. △ Certified copies of the priority docume 2. ☐ Certified copies of the priority docume 3. ☐ Copies of the certified copies of the priority docume application from the International Bure * See the attached detailed Office action for a li 13) ☐ Acknowledgment is made of a claim for dome since a specific reference was included in the 137 CFR 1.78.  a) ☐ The translation of the foreign language priorights and the first sentence of the fi	ents have been received. Ents have been received in a ciority documents have been au (PCT Rule 17.2(a)). Ents of the certified copies no stic priority under 35 U.S.C first sentence of the specific provisional application has I stic priority under 35 U.S.C	Application No In received in this National Stage It received. It is \$ 119(e) (to a provisional application or in an Application Data Stage on received. It is \$ 120 and/or 121 since a specific s	cation) Sheet. cific
Attachment(s)	_		
I) ⊠ Notice of References Cited (PTO-892)  ② ☑ Notice of Draftsperson's Patent Drawing Review (PTO-948)  ③ ☑ Information Disclosure Statement(s) (PTO-1449) Paper No(s)	5) Notice of	Summary (PTO-413) Paper No(s) Informal Patent Application (PTO-152)	

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### PART III. DETAILED ACTION

1. Claims 1-16 are presented for examination.

2. The IDS filed on June/12/2001 have been received and fully considered.

## Claim Objections

- 3. Claim 9 is objected to because of minor informality, it is suggested that applicants replace "A device according to claim 9" by "A device according to claim 8" because claim 9 is a dependent claim and it can not depend on itself. Correction is required.
- 4. Claims 1, 4, 8, 11, and 15 are objected to minor informalities. Claim 1, lines 1, 10, 12; claim 4, line 2; claim 8, lines 1, 9, 11; claim 11, lines 2, 3; claim 15, line 2 are objected to spelling error, it is suggested that applicants replace "recognizing" by "recognizing".

#### **Abstract Objections**

5. The abstract is objected to because of minor informality of inadvert "Figure 1".

Correction is required.

## Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

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do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 1-15 are rejected under 35 U.S.C. 102 (e) as being anticipated by applicant submitted IDS issued to 1999 IEEE Shadow Gestures: 3D Hand Pose Estimation using a Single Camera.

As per claims 1 (method) and 8 (device), Shadow Gesture discloses a method for recognizing a selection a set of at least two alternatives as the technique of moving the thumb and the index finger (see page 484, right col., lines 1-2), the method comprising:

Determining the positions corresponding to each alternative in the space surround a user on the basis of their distance and direction with respect to the user so that the locations of the positions remain substantially the same with respect to user irrespective of the location of the user is taught by Shadow Gesture as the technique of a light source to cast the shadow of a hand and use a single camera to image both the hand and its shadow. Features derived from projections of the hand and the shadow are then used to compute 3D position and orientation (see page 479, right col., lines 17-21) and the geometry of the shadow formation calculation (see page 483, left col., line 23 to right col., line 39 and see Fig. 7);

Allowing the user to carry out a first movement for moving a member of the body to a position corresponding to an alternative the user desires is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb (see page 484, right col., line 1);

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Recognizing a second movement carried out by the user in the position corresponding to the alternative the user desires is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb and the index finger (see page 484, right col., lines 1-2);

In response to the second movement, recognizing the selection the user desires as completed is taught by Shadow Gesture as the technique of selecting simple primates from a menu and manipulating them (see page 484, left col., lines 50-51 and see Fig. 8);

Providing the recognizing selection as an output is taught by Shadow Gesture as 3D Scene in Fig. 8.

These claims are therefore rejected for the reasons as set forth above.

As per claims 2 (method) and 9 (device), the limitation of displaying the user at least once the positions corresponding to the alternatives as virtual images is taught by Shadow Gesture as the technique of virtual fly-thru's over terrains (see page 484, right col., lines 7-8 and see Fig. 9). These claims are therefore rejected for the reasons as set forth above.

As per claims 3 (method) and 10 (device), the limitation of the alternative indicated at any given time is taught by Shadow Gesture as the technique of real-time gesture recognition and hand tracking system that can be used as input interface to applications that require multi dimensional control (see page 479, left col., lines 26-29). These claims are therefore rejected for the reasons as set forth above.

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As per claims 4 (method) and 11 (device), the limitation of recognizing the second movement contactlessly is taught by Shadow Gesture as the technique of virtual fly-thru's over terrains (see page 484, right col., lines 7-8 and see Fig. 9). These claims are therefore rejected for the reasons as set forth above.

As per claims 5 (method) and 12 (device), the limitation of wherein the first movement is the movement of the user's hand is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb and the index finger (see page 484, right col., lines 1-2).

These claims are therefore rejected for the reasons as set forth above.

As per claim 6 (method), the limitation of carry out the first function to the output is taught by Shadow Gesture as the technique of controlling robot arm by moving the thumb (see page 484, right col., lines 1-2 and see 3D Scene in Fig. 8).

This claim is therefore rejected for the reasons as set forth above.

As per claim 13 (device), the limitation of carrying out a first function in response to the second movement is taught by Shadow Gesture as the technique of controlling robot arm by moving the thumb and index finger (see page 484, right col., lines 1-2 and see 3D Scene in Fig. 8).

This claim is therefore rejected for the reasons as set forth above.

therefore rejected for the reason as set forth above.

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As per claims 7 (method) and 14 (device), the limitation of allowing the user to carry out certain second activity with a specific third movement of the member of the body is taught by Shadow Gesture as the technique of an interface to 3D video games where users can navigate by finger-pointing. Th user can also fire guns using the "click" gesture and open doors with the "reach" gesture (see page 484, right col., line 12 to page 485, left col., line 2). These claims are

As per claim 15, the limitation of the second movement carried out by the user in the position are adapted to be attached to the user is taught by Shadow Gesture as the technique of user controls the robot arm by moving the thumb and the index finger (see page 484, right col., lines 1-2) for selecting simple primates from a menu and manipulating them (see page 484, left col., lines 50-51) of 3D video games (see page 484, right col., line 13). This claim is therefore rejected for the reason as set forth above.

## Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of applicant submitted IDS issued to 1999 IEEE Shadow Gestures: 3D Hand Pose Estimation using a Single Camera in view of Kumar et al. (USPN: 6,624,833) hereinafter Kumar.

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As per claim 16, Shadow Gesture discloses the invention substantially as claimed above. Shadow Gesture, however, does not disclose the limitation of wherein the device comprises at least one of the following: mobile station, a computer, a television apparatus, a data network browsing device, an electronic book, and an at least partly electronically controlled vehicle.

Kumar discloses the limitation of wherein the device comprises a computer as the technique of computer system 12 (see col. 5, line 32)

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Kumar's teaching of computer system into that of shadow Gesture' invention.

By doing so, the system would be enhanced by capable of allowing user to select alternative choice and perform some functional tasks on virtual environment.

#### Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach a method for allowing user to select menu choice based on gesture recognition and perform some desire tasks based on user's desired manner.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG T THAI whose telephone number is (703) 308-7234. The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca, can be reached at (703) 308-3116.

The fax numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final Communication)

(703) 872-9306 (Official Communication)

(703) 746-7240 (For status inquiries, Draft Communication).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8000.

**CUONG T THAI** 

Examiner

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December 26, 2003.

BA HUYNE